

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings of claims in the application:

**LISTING OF CLAIMS**

1. (Currently Amended) A method for controlling subscriber access in a network capable of establishing connections with a plurality of domain sites, comprising:  
receiving, at an access server located on a wide area network, said access server coupled to a first communication network and a second communication network, a communication from a subscriber on said first communication network, said communication optionally including a domain site identifier associated with a domain site on said second communication network; and  
authorizing subscriber access to said domain site on said second communication network upon determining, in response to said receiving, that said domain site identifier is included in a list of authorized domain sites associated with a virtual circuit through which said communication is received.
2. (Previously Presented) The method of claim 1, further comprising terminating said communication when said domain site identifier is not included in said list.
3. (Original) The method of claim 1 wherein said communication comprises a Point-to-Point Protocol (PPP) session.
4. (Previously Presented) The method of claim 3 wherein  
said PPP session comprises a tunneling session;  
said determining comprises assigning a tunnel ID; and  
said PPP session is forwarded onto a tunnel associated with said tunnel ID when said subscriber is authorized to access said domain site.
5. (Original) The method of claim 4 wherein said tunneling session comprises an L2TP session.

6. (Previously Presented) The method of claim 5 wherein said domain site identifier included in said communication is a domain name, and wherein said determining further comprises:
  - issuing an authorized domain list request including a virtual circuit identifier;
  - receiving an authorized domain list that includes domain names of authorized domain sites for said virtual circuit identifier;
  - indicating said domain site is unauthorized when said domain name included in said communication is not in said authorized domain list;
  - indicating said domain site is authorized when said domain name included in said communication is in said authorized domain list;
  - issuing a tunnel ID request including said domain name when said domain site is authorized; and
  - receiving a tunnel ID.
7. (Original) The method of claim 6 wherein  
said authorized domain list request is serviced by an AAA server; and  
an AAA server services said tunnel ID request.
8. (Original) The method of claim 6 wherein said virtual circuit identifier comprises a VPI/VCI identifier.
9. (Previously Presented) The method of claim 5 wherein said determining further comprises:
  - issuing a tunnel ID request including said domain site identifier and a virtual circuit identifier; and
  - receiving a tunnel ID.
10. (Original) The method of claim 9 wherein an AAA server services said tunnel ID request.
11. (Original) The method of claim 9 wherein said virtual circuit identifier comprises a VPI/VCI identifier.

12. (Previously Presented) The method of claim 5 wherein said domain site identifier included in said communication is a domain name, and wherein said determining further comprises:
- performing a table lookup based on a virtual circuit identifier to obtain an authorized domain list that includes domain names of authorized domain sites for said virtual circuit identifier;
  - indicating said domain site is unauthorized when said domain name included in said communication is not in said authorized domain list;
  - indicating said domain site is authorized when said domain name included in said communication is in said authorized domain list; and
  - performing a table lookup based on said domain name to obtain a tunnel ID when said domain site is authorized.
13. (Original) The method of claim 12 wherein said virtual circuit identifier comprises a VPI/VCI identifier.
14. (Currently Amended) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method to control subscriber access in a network capable of establishing connections with a plurality of domain sites, the method comprising:
- receiving, at an access server located on a wide area network, said access server coupled to a first communication network and a second communication network, a communication from a subscriber on said first communication network, said communication optionally including a domain site identifier associated with a domain site on said second communication network; and
  - authorizing subscriber access to said domain site on said second communication network upon determining, in response to said receiving, that said domain site identifier is included in a list of authorized domain sites associated with a virtual circuit through which said communication is received.
15. (Previously Presented) The program storage device of claim 14, further comprising terminating said communication when said domain site identifier is not included in said list.

16. (Original) The program storage device of claim 14 wherein said communication comprises a Point-to-Point Protocol (PPP) session.
17. (Previously Presented) The program storage device of claim 16 wherein said PPP session comprises a tunneling session;  
said determining comprises assigning a tunnel ID; and  
said PPP session is forwarded onto a tunnel associated with said tunnel ID when said subscriber is authorized to access said domain site.
18. (Original) The program storage device of claim 17 wherein said tunneling session comprises an L2TP session.
19. (Previously Presented) The program storage device of claim 18 wherein said domain site identifier included in said communication is a domain name, and wherein said determining further comprises:
  - issuing an authorized domain list request including a virtual circuit identifier;
  - receiving an authorized domain list that includes authorized domain sites for said identifier;
  - indicating said domain site is unauthorized when said domain name included in said communication is not in said domain list;
  - indicating said domain site is authorized when said domain name included in said communication is in said domain list;
  - issuing a tunnel ID request including said domain name when said domain site is authorized; and
  - receiving a tunnel ID.
20. (Original) The program storage device of claim 19 wherein said authorized domain list request is serviced by an AAA server; and an AAA server services said tunnel ID request.

21. (Original) The program storage device of claim 19 wherein said virtual circuit identifier comprises a VPI/VCI identifier.
22. (Previously Presented) The program storage device of claim 18 wherein said determining further comprises:  
issuing a tunnel ID request including said domain site identifier and a virtual circuit identifier; and  
receiving a tunnel ID.
23. (Original) The program storage device of claim 22 wherein an AAA server services said tunnel ID request.
24. (Original) The program storage device of claim 22 wherein said virtual circuit identifier comprises a VPI/VCI identifier.
25. (Previously Presented) The program storage device of claim 18 wherein said domain site identifier included in said communication is a domain name, and wherein said determining further comprises:  
performing a table lookup based on a virtual circuit identifier to obtain an authorized domain list that includes domain names of authorized domain sites for said virtual circuit identifier;  
indicating said domain site is unauthorized when said domain name included in said communication is not in said authorized domain list;  
indicating said domain site is authorized when said domain name included in said communication is in said authorized domain list; and  
performing a table lookup based on said domain name to obtain a tunnel ID when said domain site is authorized.
26. (Original) The program storage device of claim 25 wherein said virtual circuit identifier comprises a VPI/VCI identifier.

27. (Currently Amended) An apparatus for controlling subscriber access in a network capable of establishing connections with a plurality of domain sites, the apparatus comprising:  
means for receiving, at an access server located on a wide area network, said access server  
coupled to a first communication network and a second communication network, a  
communication from a subscriber on said first communication network, said  
communication optionally including a domain site identifier associated with a domain  
site on said second communication network; and  
means for authorizing subscriber access to said domain site on said second communication  
network upon determining, in response to said receiving, that said domain site identifier  
is included in a list of authorized domain sites associated with a virtual circuit through  
which said communication is received.
28. (Previously Presented) The apparatus of claim 27, further comprising means for terminating  
said communication when said domain site identifier is not included in said list.
29. (Original) The apparatus of claim 27 wherein said communication comprises a Point-to-  
Point Protocol (PPP) session.
30. (Previously Presented) The apparatus of claim 29 wherein  
said PPP session comprises a tunneling session;  
said determining comprises means for assigning a tunnel ID; and  
said PPP session is forwarded onto a tunnel associated with said tunnel ID when said  
subscriber is authorized to access said domain site.
31. (Original) The apparatus of claim 30 wherein said tunneling session comprises an L2TP  
session.
32. (Previously Presented) The apparatus of claim 31 wherein said domain site identifier  
included in said communication is a domain name, and wherein said determining further  
comprises:

means for issuing an authorized domain list request including a virtual circuit identifier;

means for receiving an authorized domain list that includes domain names of authorized domain sites for said identifier;

means for indicating said domain site is unauthorized when said domain name included in said communication is not in said domain list;

means for indicating said domain site is authorized when said domain name included in said communication is in said domain list;

means for issuing a tunnel ID request including said domain name when said domain site is authorized; and

means for receiving a tunnel ID.

33. (Original) The apparatus of claim 32 wherein said authorized domain list request is serviced by an AAA server; and an AAA server services said tunnel ID request.
34. (Original) The apparatus of claim 32 wherein said virtual circuit identifier comprises a VPI/VCI identifier.
35. (Previously Presented) The apparatus of claim 31 wherein said determining further comprises:  
means for issuing a tunnel ID request including said domain site identifier and a virtual circuit identifier; and  
means for receiving a tunnel ID.
36. (Original) The apparatus of claim 35 wherein an AAA server services said tunnel ID request.
37. (Original) The apparatus of claim 35 wherein said virtual circuit identifier comprises a VPI/VCI identifier.

38. (Previously Presented) The apparatus of claim 31 wherein said domain site identifier included in said communication is a domain name, and wherein said determining further comprises:
- means for performing a table lookup based on a virtual circuit identifier to obtain an authorized domain list that includes domain names of authorized domain sites for said virtual circuit identifier;
  - means for indicating said domain site is unauthorized when said domain name included in said communication is not in said authorized domain list;
  - means for indicating said domain site is authorized when said domain name included in said communication is in said authorized domain list; and
  - means for performing a table lookup based on said domain name to obtain a tunnel ID when said domain site is authorized.
39. (Original) The apparatus of claim 38 wherein said virtual circuit identifier comprises a VPI/VCI identifier.
40. (Currently Amended) An access server capable of allowing subscribers of a communications system to gain exclusive access to a domain site associated with a virtual circuit, said access server located on a wide area network, said access server comprising:
- an authorized domain list request generator capable of generating an authorized domain list request including a virtual circuit identifier associated with a virtual circuit through which a PPP session authentication request is accepted, said PPP session authentication request including a domain site identifier;
  - an assessor capable of determining whether said domain site identifier is in an authorized domain list associated with said virtual circuit;
  - a tunnel TD request generator capable of generating a tunnel ID request including said domain site identifier; and
  - an authorizer capable of granting users access to said domain site based upon said authorized domain list.



41. (Original) The access server of claim 40, further comprising:  
a first receiving interface capable of accepting said PPP session authentication request;  
a first forwarding interface capable of sending said authorized domain list request to an AAA server;  
a second receiving interface capable of accepting a requested authorized domain list;  
a second forwarding interface capable of sending said tunnel ID request to an AAA server;  
a third receiving interface capable of accepting a requested tunnel ID; and  
a third forwarding interface capable of forwarding said PPP session on a tunneling session associated with said tunnel ID.
42. (Original) The access server of claim 40 wherein said tunneling session comprises an L2TP session.
43. (Original) The access server of claim 42 wherein said virtual circuit identifier comprises a Virtual Path Identifier (VPI) / Virtual Channel Identifier (VCI).
44. (Original) The access server of claim 43 wherein said first receiving interface comprises at least one access multiplexer, each access multiplexer having a plurality of inputs for receiving a service request, each of said inputs being associated with a particular subscriber virtual circuit.
45. (Original) The access server of claim 41 wherein said AAA server and said access server communicate using the Remote Authorization Dial-In User Service (RADIUS) protocol.
46. (Currently Amended) An access server capable of allowing subscribers of a communications system to gain exclusive access to a domain site associated with a virtual circuit, said access server located on a wide area network, said access server comprising:  
a tunnel ID request generator capable of generating a tunnel ID request, said tunnel ID request including a virtual circuit identifier associated with a virtual circuit through which a PPP authentication request is accepted; and

an authorizer capable of granting users domain site access based upon a list of authorized domain sites associated with said virtual circuit.

47. (Previously Presented) The access server of claim 46, further comprising:  
a first receiving interface capable of accepting said PPP session authentication request, said PPP session authentication request including a domain site identifier;  
a first forwarding interface capable of sending said tunnel ID request to an AAA server;  
a second receiving interface capable of accepting a requested tunnel ID; and  
a second forwarding interface capable of forwarding said PPP session on a tunneling session associated with said tunnel ID.
48. (Original) The access server of claim 47 wherein said tunneling session comprises an L2TP session.
49. (Original) The access server of claim 48 wherein said virtual circuit identifier comprises a Virtual Path Identifier (VPI) / Virtual Channel Identifier (VCI).
50. (Original) The access server of claim 46 wherein said first receiving interface comprises at least one access multiplexer, each access multiplexer having a plurality of inputs for receiving a service request, each of said inputs being associated with a particular subscriber virtual circuit.
51. (Original) The access server of claim 47 wherein said AAA server and said access server communicate using the Remote Authorization Dial-In User Service (RADIUS) protocol.
52. (Previously Presented) An access server capable of allowing subscribers of a communications system to gain exclusive access to a domain site associated with a virtual circuit, said access server comprising:  
a memory device capable of storing a domain list table and a tunnel ID table, said domain list table including a plurality of virtual circuit identifiers and associated domain site

- identifiers, said tunnel ID table including a plurality of domain names and associated tunnel IDs;
- an authorized domain list determiner capable of determining an authorized domain list based upon said domain list table and a domain site identifier within a PPP authentication request, said PPP authentication request received on a virtual circuit having a virtual circuit identifier;
- an assessor capable of determining whether said domain site identifier within said PPP authentication request is in said domain list;
- a tunnel ID determiner capable of determining a tunnel ID based upon said tunnel ID table and said domain site identifier; and
- an authorizer capable of granting subscribers domain site access based upon said authorized domain list.
53. (Previously Presented) The access server of claim 52, further comprising:  
a receiving interface capable of accepting said PPP session authentication request; and  
a forwarding interface capable of forwarding said PPP session on a tunneling session associated with said tunnel ID.
54. (Original) The access server of claim 53 wherein said tunneling session comprises an L2TP session.
55. (Original) The access server of claim 54 wherein said virtual circuit identifier comprises a Virtual Path Identifier (VPI) / Virtual Channel Identifier (VCI).
56. (Original) The access server of claim 52 wherein said first receiving interface comprises at least one access multiplexer, each access multiplexer having a plurality of inputs for receiving a service request, each of said inputs being associated with a particular subscriber virtual circuit.
57. (Previously Presented) A method for controlling subscriber access in a network capable of establishing connections with a plurality of domain sites, comprising:

receiving an L2TP session from a subscriber using a first communication network coupled to at least one other communication network, said L2TP session optionally including a domain site identifier associated with a domain site on said at least one other communication network;

determining whether said subscriber is authorized to access said domain site based upon said domain site identifier and a list of authorized domain sites for a virtual circuit through which said L2TP session is received, said determining comprising:

issuing an authorized domain list request including a virtual circuit identifier;

receiving an authorized domain list that includes domain site identifiers of authorized domain sites for said virtual circuit identifier;

indicating said domain site is unauthorized when said domain site identifier included in said L2TP session is not in said authorized domain list;

indicating said domain site is authorized when said domain site identifier is in said authorized domain list;

issuing a tunnel ID request including said domain site identifier when said domain site is authorized;

receiving a tunnel ID; and

assigning said tunnel ID; and

authorizing subscriber access to said domain site when said domain site identifier is included in said authorized domain list, wherein said L2TP session is forwarded onto a tunnel associated with said tunnel ID when said subscriber is authorized to access said domain site.

58. (Previously Presented) The method of claim 57 wherein said authorized domain list request is serviced by an AAA server; and an AAA server services said tunnel ID request.

59. (Previously Presented) The method of claim 57 wherein said virtual circuit identifier comprises a VPI/VCI identifier.

60. (Previously Presented) A method for controlling subscriber access in a network capable of establishing connections with a plurality of domain sites, comprising:
- receiving an L2TP session from a subscriber using a first communication network coupled to at least one other communication network, said L2TP session optionally including a domain site identifier associated with a domain site on said at least one other communication network;
  - determining whether said subscriber is authorized to access said domain site based upon said domain site identifier and a list of authorized domain sites for a virtual circuit through which said L2TP session is received, said determining comprising:
    - performing a table lookup based on a virtual circuit identifier to obtain an authorized domain list that includes domain site identifiers of authorized domain sites for said virtual circuit identifier;
    - indicating said domain site is unauthorized when said domain site identifier included in said L2TP session is not in said authorized domain list;
    - indicating said domain site is authorized when said domain site identifier included in said L2TP session is in said authorized domain list;
    - performing a table lookup based on said domain site identifier to obtain a tunnel ID when said domain site is authorized; and
    - assigning said tunnel ID; and
  - authorizing subscriber access to said domain site when said domain site identifier is included in said authorized domain list, wherein said L2TP session is forwarded onto a tunnel associated with said tunnel ID when said subscriber is authorized to access said domain site.
61. (Previously Presented) The method of claim 60 wherein said virtual circuit identifier comprises a VPI/VCI identifier.
62. (Previously Presented) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method to control subscriber access in a network capable of establishing connections with a plurality of domain sites, the method comprising:

receiving an L2TP session from a subscriber using a first communication network coupled to at least one other communication network, said L2TP session optionally including a domain site identifier associated with a domain site on said at least one other communication network;

determining whether said subscriber is authorized to access said domain site based upon said domain site identifier and a list of authorized domain sites for a virtual circuit through which said L2TP session is received, said determining comprising:

issuing an authorized domain list request including a virtual circuit identifier;

receiving an authorized domain list that includes authorized domain site for said virtual circuit identifier;

indicating said domain site is unauthorized when said domain site identifier included in said L2TP session is not in said authorized domain list;

indicating said domain site is authorized when said domain site identifier included in said L2TP session is in said authorized domain list;

issuing a tunnel ID request including said domain site identifier when said domain site is authorized;

receiving a tunnel ID; and

assigning said tunnel ID; and

authorizing subscriber access to said domain site when said domain site identifier is included in said authorized domain list, wherein said L2TP session is forwarded onto a tunnel associated with said tunnel ID when said subscriber is authorized to access said domain site.

63. (Previously Presented) The program storage device of claim 62 wherein said authorized domain list request is serviced by an AAA server; and an AAA server services said tunnel ID request.

64. (Previously Presented) The program storage device of claim 62 wherein said virtual circuit identifier comprises a VPI/VCI identifier.

65. (Previously Presented) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method to control subscriber access in a network capable of establishing connections with a plurality of domain sites, the method comprising:
- receiving an L2TP session from a subscriber using a first communication network coupled to at least one other communication network, said L2TP session optionally including a domain site identifier associated with a domain site on said at least one other communication network;
  - determining whether said subscriber is authorized to access said domain site based upon said domain site identifier and a list of authorized domain sites for a virtual circuit through which said L2TP session is received, said determining comprising:
    - performing a table lookup based on a virtual circuit identifier to obtain an authorized domain list that includes domain site identifiers of authorized domain sites for said virtual circuit identifier;
    - indicating said domain site is unauthorized when said domain site identifier included in said L2TP session is not in said authorized domain list;
    - indicating said domain site is authorized when said domain site identifier included in said L2TP session is in said authorized domain list;
  - performing a table lookup based on said domain site identifier to obtain a tunnel ID when said domain site is authorized; and
  - assigning said tunnel ID; and
  - authorizing subscriber access to said domain site when said domain site identifier is included in said authorized domain list, wherein said L2TP session is forwarded onto a tunnel associated with said tunnel ID when said subscriber is authorized to access said domain site.
66. (Previously Presented) The program storage device of claim 65 wherein said virtual circuit identifier comprises a VPI/VCI identifier.
67. (Previously Presented) An apparatus for controlling subscriber access in a network capable of establishing connections with a plurality of domain sites, said apparatus comprising:

means for receiving an L2TP session from a subscriber using a first communication network coupled to at least one other communication network, said L2TP session optionally including a domain site identifier associated with a domain site on said at least one other communication network;

means for determining whether said subscriber is authorized to access said domain site based upon said domain site identifier and a list of authorized domain sites for a virtual circuit used to receive said L2TP session, said means for determining comprising:

means for issuing an authorized domain list request including a virtual circuit identifier;

means for receiving an authorized domain list that includes domain site identifiers of authorized domain sites for said virtual circuit identifier;

means for indicating said domain site is unauthorized when said domain site identifier included in said L2TP session is not in said authorized domain list;

means for indicating said domain site is authorized when said domain site identifier included in said L2TP session is in said domain list;

means for issuing a tunnel ID request including said domain site identifier name when said domain site is authorized;

means for receiving a tunnel ID; and

means for assigning said tunnel ID; and

means for authorizing subscriber access to said domain site when said domain site identifier is included in said authorized domain list, wherein said L2TP session is forwarded onto a tunnel associated with said tunnel ID when said subscriber is authorized to access said domain site.

68. (Previously Presented) The apparatus of claim 67 wherein said authorized domain list request is serviced by an AAA server; and an AAA server services said tunnel ID request.
69. (Previously Presented) The apparatus of claim 67 wherein said virtual circuit identifier comprises a VPI/VCI identifier.



70. (Previously Presented) An apparatus for controlling subscriber access in a network capable of establishing connections with a plurality of domain sites, comprising:  
means for receiving an L2TP session from a subscriber using a first communication network coupled to at least one other communication network, said L2TP session optionally including a domain site identifier associated with a domain site on said at least one other communication network;  
means for determining whether said subscriber is authorized to access said domain site based upon said domain site identifier and a list of authorized domain sites for a virtual circuit through which said L2TP session is received, said means for determining comprising:  
means for performing a table lookup based on a virtual circuit identifier to obtain an authorized domain list that includes domain site identifiers of authorized domain sites for said virtual circuit identifier;  
means for indicating said domain site is unauthorized when said domain site identifier included in said L2TP session is not in said authorized domain list;  
means for indicating said domain site is authorized when said domain site identifier included in said L2TP session is in said authorized domain list;  
means for performing a table lookup based on said domain site identifier to obtain a tunnel ID when said domain site is authorized; and  
assigning said tunnel ID; and  
means for authorizing subscriber access to said domain site when said domain site identifier is included in said authorized domain list, wherein said L2TP session is forwarded onto a tunnel associated with said tunnel ID when said subscriber is authorized to access said domain site.
71. (Previously Presented) The apparatus of claim 70 wherein said virtual circuit identifier comprises a VPI/VCI identifier.
72. (New) The method of claim 1, wherein said authorizing further depends on obtaining a tunnel identifier associated with said domain site identifier.

73. (New) The program storage device of claim 14, wherein said authorizing further depends on obtaining a tunnel identifier associated with said domain site identifier.
74. (New) The apparatus of claim 27, wherein said means for authorizing includes means for obtaining a tunnel identifier associated with said domain site identifier.